AMENDMENT

In the claims:

1. (Original) A method for separation of racemic mixtures using a synthesizer, an analyzer, and a computer, the method including the steps of:

identifying physical variables that affect chiral selectivity for the separation of racemic mixtures, one of the physical variables being stationary phases;

determining a range of values of the physical variables;

choosing a finite number of experimental tests, wherein the experimental tests have values for the variables chosen from the range of values and wherein the experimental tests have test stationary phases;

providing a plurality of wells in a stationary phase plate and plurality of wells in a collection plate provided under the stationary phase plate;

assigning the test stationary phases to particular wells in the stationary phase plate;

packing the test stationary phases into the particular wells of the stationary phase plate;

dispensing the racemic mixture solution into the plurality of wells in the stationary phase plate, the racemic mixture concentration corresponding to the values chosen for the finite number of experimental tests;

allowing the racemic solution to pass through the stationary phases and collect into the corresponding wells in the collection plate;

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analyzing, using the analyzer, racemic solutions collected in the plurality of wells in the collection plate; and

automatically generating suggested parameters for future experiments using the computer wherein the suggested parameters are chosen from a new range of values, the step of automatically generating being based on the analysis of the racemic solutions collected in the plurality of wells in the collection plate.

2. (Original) The method of claim 1, further comprising the step of generating a statistical analysis based on the analysis of the racemic solution collected in the plurality of wells in the collection plate, and wherein the step of automatically generating suggested parameters for future experiments is based on the statistical analysis.

3. (Original) The method of claim 2, wherein the step of generating a statistical analysis is automatically generated using the computer.

4. (Original) The method of claim 3, wherein the step of generating a statistical analysis includes determining an optimal racemic solution, the optimal racemic solution having a highest selective adsorption.

5. (Original) The method of claim 1, further comprising the step of determining an optimal racemic solution, the optimal racemic solution having a highest selective adsorption; wherein the stationary phases are classified based on characteristics, and wherein the suggested parameters for future experiments include stationary phases with the same characteristics as the stationary phase used for the optimal racemic solution.

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6. (Original) The method of claim 1, wherein the physical variables are selected from the group consisting of stationary phases, amount of stationary phase, racemic mixture solution concentration, and operating conditions.

7. (Original) The method of claim 1, wherein the physical variables include choice of solvents.

8. (Original) The method of claim 1, wherein the physical variables include solvent percentages.

9. (Original) The method of claim 1, wherein the step of analyzing the collected racemic solution in the plurality of wells in the collection plate includes determining enantiomeric excess.

10. (Currently amended) The method of claim ~~1~~12, wherein the step of washing the stationary phase plate is performed automatically.

11. (Original) The method of claim 1, wherein the step of packing the test stationary phases into the particular wells of the stationary phase plate includes packing the stationary phases into each well of the stationary phase plate sandwiched with a first frit and a second frit.

12. (Original) The method of claim 1, further comprising the steps of washing the stationary phase plate; and re-using the stationary phase plate for the next experiment.

13. (Original) The method of claim 1, further comprising the steps of:

assigning stationary phases based on the suggested parameters to particular wells in the stationary phase plate;

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packing the test stationary phases into the particular wells of the stationary phase plate;

dispensing the racemic mixture solution into the plurality of wells in the stationary phase plate, the racemic mixture concentration corresponds to the value chosen from a range of values;

allowing the racemic solution to pass through the stationary phases and collect into the corresponding wells in the collection plate; and

analyzing, using the analyzer, racemic solutions collected in the plurality of wells in the collection plate.

14. (Currently amended) A method for optimizing chiral resolution using a synthesizer, an analyzer and a computer, the method including the steps of:

identifying variables which affect chiral selectivity for the separation of racemic mixtures;

choosing a finite number of experimental tests, wherein the experimental tests have values for the variables;

providing a plurality of wells in a stationary phase plate and plurality of wells in a collection plate provided under the stationary phase plate;

assigning each of the experimental tests to a particular well;

dispensing solvents into a plurality of wells chosen from the values for the experimental tests;

allowing ~~the~~ racemic solution to pass through the stationary phases and collect into the corresponding wells in the collection plate;

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obtaining at least a portion of contents from the collection plate for the plurality of wells;

analyzing to determine the magnitude of chiral resolution for the at least a portion of the contents from the plurality of wells;

automatically generating a statistical analysis using the computer based on the step of determining the magnitude of chiral resolution and at least one of the variables identified in order to evaluate the chiral resolution in the wells; and

automatically generating, using the computer, suggested parameters for future experiments based on the statistical analysis.

15. (Original) The method of claim 14 wherein the step of analyzing to determine the magnitude of chiral resolution includes determining optical rotation of the at least a portion of the contents from the plurality of wells.

16. (Original) The method of claim 15 wherein the analyzer is a polarimeter.

17. (Original) The method of claim 15 wherein the analyzer is a chiral HPLC.

18. (Original) The method as claimed in claim 14 wherein one of the variables includes choice of solvents.

19. (Original) The method as claimed in claim 14 wherein one of the variables includes choice of stationary phases.

20. (Currently amended) A method for optimizing chiral resolution using a synthesizer, an analyzer and a computer, the method including the steps of:

choosing test stationary phases from a library of potential stationary phases;

choosing a finite number of experimental tests, wherein the experimental tests have the test stationary phases chosen;

providing a plurality of wells in a stationary phase plate and plurality of wells in a collection plate provided under the stationary phase plate;

placing the test stationary phases in the stationary phase plate;

dispensing solvents into a plurality of wells chosen from the values for the experimental tests;

allowing ~~the~~ racemic solution to pass through the stationary phases and collect into the corresponding wells in the collection plate;

obtaining at least a portion of contents from the collection plate for the plurality of wells;

analyzing to determine the magnitude of chiral resolution for the at least a portion of the contents from the plurality of wells;

automatically generating a statistical analysis using the computer based on the step of determining the magnitude of chiral resolution and the test stationary phases in order to evaluate the chiral resolution in the wells; and

automatically generating, using the computer, suggested stationary phases for future experiments based on the statistical analysis, the suggested stationary phases being selected from the library of potential stationary phases and being different from the test stationary phases.

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